

Appl. No. 10/823,902
Docket No.: E2079-00006
Reply to Office Action dated 11/18/2004

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-56. (Cancelled)

57. (Previously Presented) A method for forming an image of an organic object comprising:

- a) illuminating said object with light in the absence of a bioconcentrator which is capable of forming a complex between an analyte and a biological;
- b) forming an image of said organic object using Raman shifted light from said object;
- c) analyzing said Raman shifted light image for patterns characteristic of said organic object.

58. (Previously Presented) A method for forming an image of an object according to claim 57 further comprising passing said Raman shifted light through a filter selected from the group consisting of a FAST fiber array spectral translator, a Fabry Perot angle tuned filter, an acousto-optic tunable filter, a liquid crystal tunable filter, a Lyot filter, and an Evan's split element liquid crystal tunable filter.

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59. (Previously Presented) A method for forming an image of an object according to claim 57 further comprising passing said Raman shifted light through an interferometer selected from the group consisting of a polarization-independent imaging interferometer, a Michelson interferometer, a Sagnac interferometer, a Twynam-Green Interferometer, and a Mach-Zehnder Interferometer.

60. (Previously Presented) A method for forming an image of an object according to claim 57 further comprising dispersing said Raman shifted light thereby providing spatially separated Raman spectra.

61. (Previously Presented) A method for forming an image of an object according to claim 57 further comprising providing spatially separated Raman spectra.

62. (Previously Presented) A method for forming an image of an object according to claim 57 further comprising gathering information from said first image and forming a second image using said information.

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63. (Currently Amended) A method for forming an image of an object according to claim ~~[[57]]~~ 62 wherein said information comprises a location of said object.

64. (Currently Amended) A method for forming an image of an object according to claim ~~[[57]]~~ 62 wherein said information comprises a characterization of said object.

65. (Previously Presented) A method for forming an image of an object according to claim 57 further comprising forming an image of at least one anthrax spore.

66. (Previously Presented) A method for forming an image of an object according to claim 57 further comprising forming an image of an object selected from the group consisting of filoviruses, naviruses, alphaviruses.

67. (Previously Presented) A method for forming an image of an object according to claim 57 further comprising forming an image of an object selected from the group of microorganisms consisting of protozoa, cryptosporidia microorganisms, Escherichia coli, Escherichia coli 157 microorganisms, .Plague (Yersinia pestis), Smallpox (variola major), Tularemia (Francisella tularensis), Brucellosis (Brucella species), Clostridium perfringens, Salmonella, Shigella,

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Glanders (*Burkholderia mallei*), Melioidosis (*Burkholderia pseudomallei*),
Psittacosis (*Chlamydia psittaci*), Q fever (*Coxiella burnetii*), Typhus fever
(*Rickettsia prowazekii*), and *Vibrio cholerae*.

68. (Cancelled)

69. (Previously Presented) A method for forming an image of an object according to claim 57 further comprising forming an image of an object selected from the group of consisting of *Giardia*, *Candida albicans*, *Enterococcus faecalis*, *Staphylococcus epidermidis*, *Staphylococcus aureus*, *Enterobacter aerogenes*, *Corynebacterium diphtheriae*, *Pseudomonas eruginosa*, *Acinetobacter calcoaceticus*, *Klebsiella pneumoniae*, and *Serratia marcescens*.

70. (Previously Presented) A method for forming an image of one of a plurality of organic objects comprising:

- a) providing said plurality of organic objects in a bio-dilute sample;
- b) illuminating said sample with light in the absence of a bioconcentrator which is capable of forming a complex between an analyte and a biological;
- c) forming an image of one of said plurality of organic objects using Raman shifted light from said imaged organic object;

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d) analyzing said Raman shifted light image for patterns characteristic of said organic object.

71. (Previously Presented) A method for forming an image of an object according to claim 70 further comprising passing said Raman shifted light through a filter selected from the group consisting of a FAST fiber array spectral translator, a Fabry Perot angle tuned filter, an acousto-optic tunable filter, a liquid crystal tunable filter, a Lyot filter, and an Evan's split element liquid crystal tunable filter.

72. (Previously Presented) A method for forming an image of an object according to claim 70 further comprising passing said Raman shifted light through an interferometer selected from the group consisting of a polarization-independent imaging interferometer, a Michelson interferometer, a Sagnac interferometer, a Twynam-Green Interferometer, and a Mach-Zehnder Interferometer.

73. (Previously Presented) A method for forming an image of an object according to claim 70 further comprising dispersing said Raman shifted light thereby providing spatially separated Raman spectra.

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74. (Previously Presented) A method for forming an image of an object according to claim 70 further comprising providing spatially separated Raman spectra.

75. (Previously Presented) A method for forming an image of an object according to claim 70 further comprising gathering information from said first image and forming a second image using said information.

76. (Currently Amended) A method for forming an image of an object according to claim [[70]] 75 wherein said information comprises a location of said object.

77. (Currently Amended) A method for forming an image of an object according to claim [[70]] 75 wherein said information comprises a characterization of said object.

78. (Previously Presented) A method for forming an image of an object according to claim 70 further comprising forming an image of at least one anthrax spore.

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79. (Previously Presented) A method for forming an image of an object according to claim 70 further comprising forming an image of an object selected from the group consisting of filoviruses, naviruses, alphaviruses.

80. (Previously Presented) A method for forming an image of an object according to claim 70 further comprising forming an image of an object selected from the group of microorganisms consisting of protozoa, cryptosporidia microorganisms, Escherichia coli, Escherichia coli 157 microorganisms, .Plague (Yersinia pestis), Smallpox (variola major), Tularemia (Francisella tularensis), Brucellosis (Brucella species), Clostridium perfringens, Salmonella, Shigella, Glanders (Burkholderia mallei), Melioidosis (Burkholderia pseudomallei), Psittacosis (Chlamydia psittaci), Q fever (Coxiella burnetii), Typhus fever (Rickettsia prowazekii), and Vibrio cholerae.

81. (Cancelled)

82. (Previously Presented) A method for forming an image of an object according to claim 70 further comprising forming an image of an object selected from the group of consisting of Giardia, Candida albicans, Enterococcus faecalis, Staphylococcus epidermidis, Staphylococcus aureus, Enterobacter aerogenes, Corynebacterium diphtheriae, Pseudomonas eruginosa, Acinetobacter calcoaceticus, Klebsiella pneumoniae, and Serratia marcescens.

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83. (Previously Presented) A method for forming an image of one of a plurality of pathogenic microorganisms comprising:

- a) providing a bio-dilute sample of said plurality of pathogenic microorganisms;
- b) illuminating said bio-dilute sample with light in the absence of a bioconcentrator which is capable of forming a complex between an analyte and a biological;
- c) forming an image of one of said plurality of pathogenic microorganisms using Raman shifted light from said imaged pathogenic microorganism;
- d) analyzing said Raman shifted light image for patterns characteristic of said one of said plurality of pathogenic microorganisms.

84. (Previously Presented) A method for forming an image of an organic object comprising:

- a) illuminating a biodilute sample including said organic object with light in the absence of a bioconcentrator which is capable of forming a complex between an analyte and a biological;
- b) forming an image of said illuminated organic object using Raman shifted light from said object;

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c) analyzing said Raman shifted light image for patterns
characteristic of said organic object.